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REVIEW ARTICLE

Women in dentistry: A perspective on major universities in Saudi Arabia. Part 1: Historical background

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Abstract As the works of females have been present in many fields of our lives, the history mentions little trace of these facts. The field of dentistry was among these professions. This paper will review the presence of dental practice by women world wide and will present a review of dentistry in Saudi Arabia.

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1. Introduction

“As the hands of females have been present in many fields of knowledge through the universe, yet history does not record it all. This is due to a cultural view that appreciates the work of men and favors them over women” (Loevy and Kowitz, 2002).

Dentistry as any other health care profession requires hard working and motivated people who strive to deliver the best care to the public through managing their oral health, since the mouth is the first gate to the body. Females comprise a significant percentage of dentists providing oral care for the general public. This paper discusses the role of women in dentistry in different parts of the world and their achievements in Saudi Arabia. A historical perspective will first be provided, followed by a summary of our study designed to provide quantitative information about the achievements of women.

2. Background and literature review

Certain jobs have always been associated with either the male or the female genders. Dentistry is traditionally one of them, as it is thought or believed to be of a masculine nature. But as times have changed, females have seen that male peers are advancing in their lifestyle, so they felt a need for self-satisfaction from a personal view of their job challenge, peace of mind, and improvement (Todd and Scott, 1981). There has always been a traditional limitation to what jobs are acceptable for females. By the early 1980's women started to get involved in careers that were previously considered exclusive for men. In recent years, significant numbers of women have begun careers in law, medicine, business, engineering, architecture and dentistry (Todd and Scott, 1981).

In reviewing the history of women in dentistry, Ortiz and Diaz de Kuri (2001) mentioned that for centuries in many nations women were already involved in related professions, including medical practice and this was recorded by ancient civilization in the form of paintings, engravings, ceramics and literature. In ancient Greece, there were numerous cases of women practicing medicine and related activities. In the Roman Empire, women also practiced in different branches of medicine. A reference to this is the goddess, Maditrina, immortalized in a beautiful sculpture now present at the Musée des Antiquités Nationales de d'Saint Germain in France. In the 14th century, the Buddhist priestess Nakaoka Tei, known as Hotokehime, or the Lady of Buddha, constructed an entire set of teeth for herself from cherry wood and is now on display at the Tokyo museum in Japan. In medieval Europe, Saint Hildegard of Bingen (1099–1179) wrote a book on medicine (*Liber Simplicis Medicinae*). She mentioned dental treatment based on herbs and the need of draining abscessed teeth for the release of pus. In the 14th century, Rolando de Parma mentioned in a medical book about a woman placing a bandage around the jaw of a patient. During this time, wives, daughters and sisters provided assistance to male physicians. In the 16th, 17th and 18th centuries dental treatment frequently involved the extraction of “sick teeth”, which was performed by phlebotomist-barbers, with the assistance of women (Ortiz and Diaz de Kuri, 2001).

Modern dentistry started with the first rotary instrument, described by Pierre Fauchard (1678–1761) in his book *Le Chirurgien Dentiste* (Vinski, 1979). From this period, the involvement of women in dentistry occurred throughout Europe and North America. In 18th century France, females worked as dental assistants. In the 19th century, while other cultures were not accepting women in the practice of dentistry, the earlier development that took place in France allowed some women to practice dentistry. Madame Ana, announced herself as a “dentist for women” and practiced in her clinic

at Rue Rivoli in Paris (Ortiz and Diaz de Kuri, 2001). During the 19th century, differentiation of the etiologies of diseases began, and women started more actively to express the need to be treated and examined by women, especially in areas of obstetrics and gynecology (Loevy and Kowitz, 2002, 1999).

In 1895, the first women dentists in the United Kingdom (UK) graduated from the dental school in Edinburgh, Scotland (Stewart and Drummond, 2000). Seventeen years later, women were granted the dental qualification from the Royal College of Surgeons of England. However, their presence during subsequent years in the UK was very low, as the dental profession was still considered a masculine one. Finally, in 1960, women were encouraged in the UK to enter different fields where it was thought they would be needed and have a favorable presence. These fields included maternity, child and school health services (Stewart and Drummond, 2000).

In Mexico, women were traditionally involved in the practice of medicine through the collection of medicinal plants. In the 16th century, Fray de Landa mentioned that Mayan women were practicing medicine. During the subsequent colonial years, women were not allowed to practice medicine and the male physicians came from Spain. Only at the end of the 19th century did this viewpoint begin to change, with the arrival of dental treatment in Mexico brought over mainly by French and North Americans. Among the first few dentists were a couple of women: Anne Marie Page and Mademoiselle Duval (Ortiz and Diaz de Kuri, 2001). The first one, Anne Marie Page started to advertise in Mexican newspapers as was customary in those days (Ortiz and Diaz de Kuri, 2001). In 1886, Margarita Chorné y Salazar was the first female dentist to graduate in Mexico (Ortiz and Diaz de Kuri, 2001).

In North America, dentistry had also traditionally been considered a masculine profession, and was practiced by barbers, blacksmiths and other self-styled experts of the teeth. Women were considered to become wives and mothers, and were thought not to have the physical strength and other attributes required for dental duties (Ring, 1985). In the 18th and early 19th century, none of the established US dental schools would accept women students, believing that they lacked the physical ability needed for the profession (Loevy and Kowitz, 2002).

In 1840, the first dental school in the world, the Baltimore College of Dental Surgery, was chartered by the state of Maryland, due to the pioneering efforts of Hayden and Harris (Ring, 1985). This was followed by the opening of a number of freestanding schools of dentistry that were not associated with existing colleges or universities. However, none would admit women. The first women to graduate from a dental school were persons who had to face enormous obstacles and many denials in order to obtain a better career and life, and to open the door for the other women students who followed (Loevy and Kowitz, 2002, 1999).

3. The first American woman dentist

The first American woman dentist was Emeline Roberts, who in 1854 at the age of 17 married Dr. Daniel Albion Jones of Connecticut. She became his assistant in his dental practice and studied at night the basic dental sciences until she was able to become his partner in 1859. After his death in 1864, she took over his practice for sixty years. In 1893, she was appointed a member of the Women's Advisory Council of the World's

Columbian Dental Congress, and in 1912 she was awarded honorary membership in the Connecticut Dental Society (Loevy and Kowitz, 2002; Ring, 1985). She was probably not the only woman practicing dentistry without a degree. As in 1870, the US Census reported that 24 women were practicing dentistry without a dental degree. About this period, the British Census reported in 1871 that 116 women were similarly practicing dentistry in Great Britain (Women in dentistry, 1928).

4. The first women dental graduates in the United States

The Ohio College of Dental Surgery was the first dental school in the United States to formally open its doors for women. Dr. George T. Barker had published an editorial in the *Dental Times* in 1865 (Women in dentistry, 1928; Barker, 1865) strongly objecting to the admission of women to the field of dentistry as it requires "mental and physical equipment of high order" and "the same reason holds good against females practicing dentistry that it does against feeble males" (Loevy and Kowitz, 1999; Barker, 1865).

Lucy Beaman Hobbs (Ring, 1985) from New York chose dentistry as her future career in the mid 19th century. She graduated at the age of sixteen from school and was employed in a small town in Michigan. She tried to enroll at the Ohio College of Dental Surgery, but Dean Jonathan Taft insisted that "women are not admitted as students". She contacted all the dentists in the Cincinnati, area of Ohio and finally found one Dr. Samuel Wardle, who was a recent graduate and willing to accept her as a preceptorial student. In 1861, she opened her own dental office in Cincinnati which was unsuccessful, and then moved to Iowa and established a flourishing practice. In 1865, the Iowa State Dental Society changed its bylaws and permitted women as members. Hobbs was sponsored by the Iowa State Dental Society as a dental student at the Ohio College of Dental Surgery in Cincinnati and obtained her D.D.S degree in February 1866.

Hobbs was elected in 1866 and named a delegate to the American Dental Association (ADA) convention held that year in Chicago (Loevy and Kowitz, 1991). After her graduation, she moved to Chicago and married James Myrtle Taylor, to whom once again she became preceptor. They moved to Lawrence, Kansas and practiced until his death in 1886. She continued to practice and died in Lawrence in 1910 (Loevy and Kowitz, 1999). She was a pioneer, setting the example for other women to gain admission to dental schools.

At the Pennsylvania College of Dentistry in 1869, Henriette Hirschfeld from Berlin, Germany was the first foreign student to complete dental school education in the United States and the second woman graduate after Hobbs (Loevy and Kowitz, 1999).

A survey of *Dental Cosmos* and *Dental Register* shows that at least 181 women had graduated from dental schools in the United States between 1866 and 1893 (Loevy and Kowitz, 1999). The American Dental Association in August 1869 changed its negative viewpoint about practicing female dentists and admitted qualified women to full membership (Loevy and Kowitz, 1991).

5. Dentistry in Saudi Arabia

The emergence and rise of Islam in the 7th century A.D. touched many aspects of the lives of its followers. The concept of oral hy-

giene was incorporated into the daily Muslim practice. Oral hygiene was implemented by rinsing the mouth three times at each of the ablutions required before prayer. Since Muslims engage in prayer five times each day, they perform considerable beneficial rinsing of the oral environment. The Prophet recommended the use of Siwak (Ring, 1985) a twig of the *Salvadora Persia* tree for oral hygiene. This wood, it was found out later contains sodium bicarbonate, tannic acid and other astringents, which are effective for the health of the gums.

Saudi Arabia was united by King Abdulaziz Al-Saud in 1932 (Ministry of Finance and Economy). Since that time, considerable effort and dedication by the government has brought the Kingdom to its modern status. Education was a priority and by 1945, King Abdulaziz had initiated an extensive program to establish schools in the Kingdom. In 1954, the Ministry of Education was established in order to provide a proper education system which helped the Kingdom meet the growing need for highly educated citizens to continue its rapid progress. Despite this progress, modern dentistry was not a focus area and population awareness about dental health in the Kingdom was delayed. In the early 1900's, dentistry was practiced by traditional therapists or uncertified and unlicensed practitioners from nearby countries, especially during Hajj seasons, or by individuals who learned the profession by practicing under the supervision of trained dentists. The names of some of those pioneering dentists have been perpetuated through their sons and grandsons who became dentists, or through the names of their still-existing offices like Mr. Abdulghaffar who came to Makkah and was known in the late 1800's as Makkah Physician. He was a photographer and was treating patients for dental diseases (Sadeq, 1885). He passed the dental profession to his son Hussein who became very well known in the field of dentistry at that time (Merza and Shawoush, 2003). Mr. Abbas Sharqawi, who also taught the profession to his friend Mr. Omar Jadallah and many members of his family namely Mr. Hassan Sharqawi, Mr. Ahmed Sharqawi and Mr. Mohammed Ali Sharqawi. We were informed by his grandson Dr. Jameel Sharqawi that his wife Mrs. Nafeesah Al-Farj was assisting him in the laboratory work in those days. Also of those pioneers were Mr. Fouad Talic and Mr. Khair Al-Khadra.

Upon the establishment of the Ministry of Health in 1950, those pioneers and others practicing at that time were granted a license or certificate to continue their practice in dentistry.

No information was reported from the Ministry of Health about any female practicing dentistry in the early 1900's in Saudi Arabia, yet few non-Saudi female dentists were practicing in government hospitals and private clinics in the late 1970's.

The first University in Saudi Arabia was established in 1957 during the reign of His Majesty King Saud Bin Abdulaziz. This University moved the Kingdom to a new era in the educational field by having different colleges and specialties. At that time, colleges in the Kingdom were only accepting male students. In 1961, the university started to enroll female students. In 1969, when the medical school of the University opened its doors, admission was only for male students, but by 1974, acceptance of female students began. In 1976, a center to supervise female studies was opened at the university (King Saud University, 2006).

In 1975, the first college of dentistry was established at King Saud University in Riyadh (Yearbook of the Faculty of

Dentistry, 2006), and it was the first dental school in all of the Arabian Gulf countries. The dental school provided important community service by enabling people to receive dental treatment. Seven male students were initially admitted to the dental school in 1976. Admission at that time was limited to male students. By 1978, female students were admitted to the dental school. In 1990, King Saud University inaugurated dental education leading to the award of a Master of Science degree and a certificate of competency in a clinical specialty by the University. These programs were established to provide advanced clinical training for male and female dentists in Saudi Arabia, particularly females as it was often been difficult for them to travel abroad.

In 1985, the second dental school in the Kingdom was established in Jeddah by King Abdulaziz University, which was itself established in 1967 (*Yearbook of the Faculty of Dentistry, 2007*). This school began to accept dental students in 1988 starting with nine male and 19 female students, respectively. Postgraduate programs commenced in this dental school in 2000.

Other new dental schools followed. The College of Dentistry at King Faisal University in the Eastern province opened its doors in 2002 (*Booklet of the Faculty of Dentistry, 2002*). The College of Dentistry at King Khalid University in Abha region established in 2002 started to accept students in 2004, and the College of Dentistry at Qassim University in Qassim was established and accepted students in 2008. Presently, these colleges are accepting male students only.

The increase in the population of the Kingdom, along with an awareness of people about the importance of dental care, opened the option for the establishment of private dental schools. The Private College of Dentistry and Pharmacy was the first private dental school which opened in Riyadh in 2003, accepting both male and female students, followed by Ibn Sina National College for Medical Studies in Jeddah in 2004 which also was accepting male and female students for dentistry.

The progress and achievement of women in dentistry and oral care in Saudi Arabia is remarkable and now well documented.

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